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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,304	02/21/2001	Christopher Silvia	018512-00041	3840

7590 03/22/2002

Annette Parent
Townsend & Townsend & Crew
8th Floor
Two Embarcadero Center
San Francisco, CA 94111-3834

EXAMINER
BUNNER, BRIDGET E

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 03/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
09/623,304			

EXAMINER
Bunner, B.

ART UNIT	PAPER
11	

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents

The communication filed 15 June 2001 (Paper No. 6) is not fully responsive to the Office communication mailed 20 April 2001 (Paper No. 4) for the reason(s) set forth on the attached Notice To Comply With The Sequence Rules or CRF Diskette Problem Report. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

Since the reply appears to be bona fide attempt to comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825), applicant is given a TIME PERIOD of ONE (1) MONTH from the mailing date of this communication within which to correct the deficiency so as to comply with the sequence rules (37 CFR 1.821 - 1.825) in order to avoid abandonment of the application under 37 CFR 1.821(g). EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner, Art Unit 1647, whose telephone number is (703) 305-7148. The examiner can normally be reached on 8:00-5:30 M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner' supervisor, Gary Kunz, can be reached at (703) 308-4623. The fax number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0196.

Please note the following:

A reply to a notice to comply with the sequence rules should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office.

Please direct all replies to the United States Patent and Trademark Office via one (1) of the following:
1. Electronically submitted through EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual - ePAVE)

2. Mailed to:
U.S. Patent and Trademark Office
Box Sequence, P.O. Box 2327
Arlington, VA 22202

Gary L. Kunz

GARY L. KUNZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

3. Mailed by Federal Express, United Parcel Service or other delivery service to:
U. S. Patent and Trademark Office
2011 South Clark Place
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Crystal Plaza Two, Lobby, Room 1B03
Arlington, Virginia 22202

4. Hand Carried directly to the Customer Window at:
2011 South Clark Place
Crystal Plaza Two, Lobby, Room 1B03, Box Sequence,
Arlington, Virginia 22202

BEB
Art Unit 1647
14 March 2002

Notice to Comply	Application No.	Applicant(s)	
	09/623,304	SILVIA ET AL.	
	Examiner	Art Unit	
	Bridget E. Bunner	1647	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other:

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

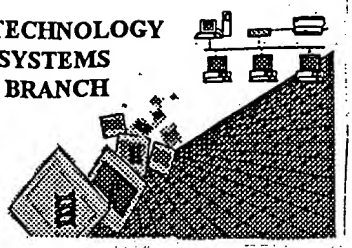
For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY

Burkhart

10D12

BIOTECHNOLOGY SYSTEMS BRANCH



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/623,304
Source: 1647
Date Processed by STIC: 3/7/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO **REDUCE** ERRORED SEQUENCE LISTINGS, **PLEASE** USE THE **CHECKER VERSION 3.1 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. **Hand Carry directly to:**
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
   Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service, or other delivery service to:** U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

1647

Does Not Comply
Corrected Diskette Needed

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002
TIME: 10:29:16

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

```
  3 <110> APPLICANT: Silvia, Christopher
  4       Yu, Weifeng
  5       ICAgen, Inc.
  7 <120> TITLE OF INVENTION: Identification and Expression of Human Kir5.1
  9 <130> FILE REFERENCE: 018512-000410US
 11 <140> CURRENT APPLICATION NUMBER: US 09/623,304
 12 <141> CURRENT FILING DATE: 2001-02-21
 14 <150> PRIOR APPLICATION NUMBER: US 60/076,612
 15 <151> PRIOR FILING DATE: 1998-03-03
 17 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/04549
 18 <151> PRIOR FILING DATE: 1999-03-02
 20 <160> NUMBER OF SEQ ID NOS: 4
 22 <170> SOFTWARE: PatentIn Ver. 2.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 383
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Homo sapiens
 29 <220> FEATURE:
 30 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward
 31       rectifier potassium channel
 33 <220> FEATURE:
 34 <221> NAME/KEY: PEPTIDE
 35 <222> LOCATION: (351)..(383)
 36 <223> OTHER INFORMATION: tail region
 38 <400> SEQUENCE: 1
 39 Met Ser Tyr Tyr Gly Ser Ser Tyr His Ile Ile Asn Ala Asp Ala Lys
 40   1               5                  10                  15
 41 Tyr Pro Gly Tyr Pro Pro Glu His Ile Ile Ala Glu Lys Arg Arg Ala
 42              20                  25                  30
 43 Arg Arg Arg Leu Leu His Lys Asp Gly Ser Cys Asn Val Tyr Phe Lys
 44          35                  40                  45
 45 His Ile Phe Gly Glu Trp Gly Ser Tyr Val Val Asp Ile Phe Thr Thr
 46      50                  55                  60
 47 Leu Val Asp Thr Lys Trp Arg His Met Phe Val Ile Phe Ser Leu Ser
 48  65                  70                  75                  80
 49 Tyr Ile Leu Ser Trp Leu Ile Phe Gly Ser Val Phe Trp Leu Ile Ala
 50                  85                  90                  95
 51 Phe His His Gly Asp Leu Leu Asn Asp Pro Asp Ile Thr Pro Cys Val
 52              100                 105                 110
 53 Asp Asn Val His Ser Phe Thr Gly Ala Phe Leu Phe Ser Leu Glu Thr
 54          115                 120                 125
 55 Gln Thr Thr Ile Gly Tyr Gly Tyr Arg Cys Val Thr Glu Glu Cys Ser
 56      130                 135                 140
```

must give location and explain what residue Xaa represents — see p. 4

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002
TIME: 10:29:16

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

```
 57 Val Ala Val Leu Met Val Ile Leu Gln Ser Ile Leu Ser Cys Ile Ile
 58 145                 150                 155                 160
 59 Asn Thr Phe Ile Ile Gly Ala Ala Leu Ala Lys Met Ala Thr Ala Arg
 60                 165                 170                 175
 61 Lys Arg Ala Gln Thr Ile Arg Phe Ser Tyr Phe Ala Leu Ile Gly Met
 62             180                 185                 190
 63 Arg Asp Gly Lys Leu Cys Leu Met Trp Arg Ile Gly Asp Phe Arg Pro
 64         195                 200                 205
 65 Asn His Val Val Glu Gly Thr Val Arg Ala Gln Leu Leu Arg Tyr Thr
 66     210                 215                 220
 67 Glu Asp Ser Glu Gly Arg Met Thr Met Ala Phe Lys Asp Leu Lys Leu
 68 225                 230                 235                 240
 69 Val Asn Asp Gln Ile Ile Leu Val Thr Pro Val Thr Ile Val His Glu
 70                 245                 250                 255
 71 Ile Asp His Glu Ser Pro Leu Tyr Ala Leu Asp Arg Lys Ala Val Ala
 72             260                 265                 270
 73 Lys Asp Asn Phe Glu Ile Leu Val Thr Phe Ile Tyr Thr Gly Asp Ser
 74         275                 280                 285
W--> 75 Thr Gly Thr Ser His Gln Ser Arg Ser Ser Tyr Val Pro Arg Xaa Ile
 76     290                 295                 300
 77 Leu Trp Gly His Arg Phe Asn Asp Val Leu Glu Val Lys Arg Lys Tyr
 78 305                 310                 315                 320
 79 Tyr Lys Val Asn Cys Leu Gln Phe Glu Gly Ser Val Glu Val Tyr Ala
 80                 325                 330                 335
 81 Pro Phe Cys Ser Ala Lys Gln Leu Asp Trp Lys Asp Gln Gln Leu His
 82             340                 345                 350
 83 Ile Glu Lys Ala Pro Pro Val Arg Glu Ser Cys Thr Ser Asp Thr Lys
 84         355                 360                 365
 85 Ala Arg Arg Arg Ser Phe Ser Ala Val Ala Ile Val Ser Ser Trp
 86     370                 375                 380
 89 <210> SEQ ID NO: 2
 90 <211> LENGTH: 1509
 91 <212> TYPE: DNA
 92 <213> ORGANISM: Homo sapiens
 94 <220> FEATURE:
 95 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward
 96       rectifier potassium channel
 98 <220> FEATURE:
 99 <221> NAME/KEY: unsure
100 <222> LOCATION: (1279)
101 <223> OTHER INFORMATION: n = a, g, c or t
103 <400> SEQUENCE: 2
104 ttactactac aaaactcacc tggatcccta agggcacagc aaagaatgag ctattacggc 60
105 agcagctatc atattatcaa tgcggacgca aaatacccag gctacccgcc agagcacatt 120
106 atagctgaga agagaagagc aagaagacga ttacttcaca aagatggcag ctgtaatgtc 180
107 tacttcaagc acatttttgg agaatgggga agctatgtgg ttgacatctt caccactctt 240
108 gtggacacca agtggcgcca tatgtttgtg atattttctt tatcttatat tctctcgtgg 300
109 ttgatatttg gctctgtctt ttggctcata gcctttcatc atggcgatct attaaatgat 360
110 ccagacatca caccttgtgt tgacaacgtc attctttca caggggcctt tttgttctcc 420
```

RAW SEQUENCE LISTING DATE: 03/07/2002
PATENT APPLICATION: US/09/623,304 TIME: 10:29:16

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

```
    111 ctagagaccc aaaccaccat aggatatggt tatcgctgtg ttactgaaga atgttctgtg 480
    112 gccgtgctca tggtgatcct ccagtccatc ttaagttgca tcataaatac ctttatcatt 540
    113 ggagctgcct tggccaaaat ggcaactgct cgaaagagag cccaaaccat tcgtttcagc 600
    114 tactttgcac ttataggtat gagagatggg aagctttgcc tcatgtggcg cattggtgat 660
    115 tttcggccaa accacgtggt agaaggaaca gttagagccc aacttctccg ctatacagaa 720
    116 gacagtgaag ggaggatgac gatggcattt aaagacctca aattagtcaa cgaccaaatc 780
    117 atcctggtca ccccggtaac tattgtccat gaaattgacc atgagagccc tctgtatgcc 840
    118 cttgaccgca aagcagtagc caaagataac tttgagattt tggtgacatt tatctatact 900
    119 ggtgattcca ctggaacatc tcaccaatct agaagctcct atgttccccg araaattctc 960
    120 tggggccata ggtttaatga tgtcttggaa gttaagagga agtattacaa agtgaactgc 1020
    121 ttacagtttg aaggaagtgt ggaagtatat gccccctttt gcagtgccaa gcaattggac 1080
    122 tggaaagacc agcagctcca catagaaaaa gcaccaccag ttcgagaatc ctgcacgtcg 1140
    123 gacaccaagg cgagacgaag gtcatttagt gcagttgcca ttgtcagcag ctggtgaaaa 1200
    124 ccctgaggag accaccactt tcgccacaca tgaatatagg gaaacacctt atcagaaagc 1260
W--> 125 tctccctgac tttaaacang aatcctctgt wgaatcccaa atgttagtcc taaaattgca 1320
    126 attatgaggg ctaccactga atcattttat ctttcagcca atcaagtcgt tgtaaacgtg 1380
    127 gctttttga aagtgttatg gctatgtttt atgatgatgc tgggtaagta gagtaagtta 1440
    128 aacttggtaa aagataatct aaaaattcca tagttctcag ttattaaaat ttttcttgtt 1500
    129 ccggaattc                                                        1509
    131 <210> SEQ ID NO: 3
    132 <211> LENGTH: 24
    133 <212> TYPE: DNA
    134 <213> ORGANISM: Artificial Sequence
    136 <220> FEATURE:
    137 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
    139 <400> SEQUENCE: 3
    140 cctaagggca cagcaaagaa tgag                                        24
    142 <210> SEQ ID NO: 4
    143 <211> LENGTH: 20
    144 <212> TYPE: DNA
    145 <213> ORGANISM: Artificial Sequence
    147 <220> FEATURE:
    148 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
    150 <400> SEQUENCE: 4
    151 gtgtggcgaa agtggtggtc                                            20
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 03/07/2002
PATENT APPLICATION: US/09/623,304 TIME: 10:29:18

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 303
Seq#:2; N Pos. 1279

VERIFICATION SUMMARY DATE: 03/07/2002
PATENT APPLICATION: US/09/623,304 TIME: 10:29:18

Input Set : A:\-4-1.app
Output Set: N:\CRF3\03072002\I623304.raw

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:288
M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1260